



IBM TotalStorage SAN m-type family — New models support scalability, enterprise-level availability, and performance

Overview

The IBM TotalStorage® SAN m-type family of enterprise director and switch products expands with the introduction of the IBM TotalStorage SAN256M enterprise director (2027-256), IBM TotalStorage SAN16M-R SAN router (2027-R16), and IBM TotalStorage SANC40M cabinet (2027-C40).

The **IBM TotalStorage SAN256M** enterprise director (2027-256) is designed to provide up to 8 Line Modules (LIM), each with up to 32 1-2 Gbps Fiber Channel (FC) ports. A fully populated SAN256M is comprised of up to 256 FC ports in a 14U rack mount chassis. A variety of LIM types are available that enable a combination of 2-Gbps FC ports for connection to server and storage resources, as well as 10-Gbps FC ports for Inter-Switch Link (ISL) between SAN256M directors. This flexibility enables growth from 64 to 256 2-Gbps FC ports, or the addition of 10-Gbps FC ISL connectivity.

Optionally, customers may purchase two additional switching modules (SWMs) and the Fiber CONnection (FICON™) management server. McDATA Enterprise Fabric Connectivity Manager (EFCM) software Version 8.6, or later, is required for the operation of the SAN256M. McDATA EFCM provides tiered enterprise fabric management with other IBM TotalStorage m-type (McDATA) directors and switches.

The **IBM TotalStorage SAN16M-R** (2027-R16) provides the 16-port base SAN router in 1U rack space, the standard edition of SANvergence Management software, rack-mount kit, and fully populated 2-Gbps shortwave SFPs on all ports. Twelve ports are user configurable as 1- 2-Gbps Fibre Channel or as GigEthernet. The remaining four ports are Intelligent GigEthernet

ports, which support optional extended distance iFCP connectivity when activated. Base functionality of the twelve user configurable ports provides SAN routing on up to two FC ports, FC fabric support, and iSCSI support on GigEthernet ports.

Customers may order three optional firmware versions: iFCP with fast write and compression on the four Intelligent GigEthernet ports, SAN routing on any of the twelve user configurable ports, and comprehensive bundle with full iFCP and SAN routing capability. For enhanced management of the SAN router, customers may order Enterprise SANvergence Management Software.

Also new with this announcement is the introduction of the **IBM TotalStorage SANC40M 40U Cabinet** (2027-C40), which is designed to accept up to two SAN256M directors, up to three SAN16M-R routers, as well as other IBM TotalStorage m-type switch and director models.

Key prerequisites

For a complete list, refer to the **Supported servers and storage systems** topic in the **Description** section.

Planned availability dates

- March 11, 2005:
 - Base model
- April 15, 2005:
 - SAN256M director FICON Management Server

At a glance

IBM TotalStorage SAN256M director (2027-256) is designed to deliver:

- Enterprise-level availability, performance, and growth.
- Ultra-scalable up to 256 1-2 Gbps Fibre Channel ports as well as 10-Gbps Inter-Switch Links (ISLs) between SAN256M directors.
- 14U rack mount director chassis, supports up to four partitions per director, and dynamic movement of ports between partitions.

IBM TotalStorage SAN16M-R router (2027-R16) is designed to:

- Support iSCSI, Fibre Channel fabric, SAN routing on two ports, and option to add extended distance iFCP and additional routing ports.
- Three optional firmware versions: enable additional routing ports, addition of iFCP with Fast Write, or comprehensive bundle with full SAN routing and iFCP functionality enabled.
- Standard SANvergence Management software included in base, option to purchase Enterprise SANvergence Management software.

IBM TotalStorage SANC40M 40U Cabinet (2027-C40) for IBM TotalStorage m-type switch and director models.

For ordering, contact:

Your IBM representative, an IBM Business Partner, or the Americas Call Centers at

800-IBM-CALL

Reference: YE001

This announcement is provided for your information only. For additional information, contact your IBM representative, call 800-IBM-4YOU, or visit the IBM home page at: <http://www.ibm.com>.

Description

IBM TotalStorage SAN256M (2027-256)

The IBM TotalStorage SAN256M (2027-256) is designed to support up to 8 Line Modules (LIMs), and scale from 64 to 256 2-Gbps Fiber Channel ports. It also provides full nonblocking FICON and FC connectivity in 2-Gbps configurations, as well as 10-Gbps ISL connectivity between SAN256M enterprise directors.

SAN256M LIMs provide connectivity to external FC or FICON devices. All LIMs are shipped fully populated with optics. The preconfigured LIMs are available in both short-wave and long-wave configurations, and are designed to allow maximum flexibility and ease of ordering. The base SAN256M director chassis includes 8 LIM slots, two control processors, two switch modules (SWM), four power supplies, two power cords, four fan trays, and a rack mount kit. The SAN256M occupies 14U of rack-mount space. As a minimum, customers must order SAN256M configurations with at least two of the available preconfigured LIMs. Customers may optionally purchase two additional SWMs, and up to eight LIMs.

While two switch modules are included in the base, a quantity of four switch modules is required for FICON applications. Therefore, FICON customers must order the two additional SWMs features (#1540). The base software included with the SAN256M includes E/OSn, Element Manager, SANtegrity Binding, Partitioning and Remote Fabric support. Customers may optionally purchase the FICON Management Server (feature number 1511) for FICON applications. CE service is required for installation of the SAN256M into SAN40M cabinet. Customers are responsible for integration and management of their installed fiber optic cable plant to the SAN256M director.

McDATA Enterprise Fabric Connectivity Manager (EFCM) software version 8.6 or later is required for the operation of the SAN256M. McDATA EFCM provides tiered enterprise fabric management with other IBM TotalStorage m-type (McDATA) directors and switches.

IBM TotalStorage SAN16M-R (2027-R16)

The 16-port IBM TotalStorage SAN16M-R (2027-R16) is an enterprise-level SAN router that is designed to provide FC and Gigabit Ethernet wire-speed fabric connectivity. The base SAN16M-R includes the standard edition of SANvergence Management software, rack-mount kit, support for SAN routing on up to two FC ports, FC fabric support, and iSCSI support on GigEthernet ports. The base SAN16M-R is fully populated with short-wave optics on all ports, but optional long-wave and extended distance SFPs are available for replacement only of the existing SFPs. The SAN16M-R installs in 1U rack space.

On the 16-port SAN16M-R, twelve ports are user configurable as 1- 2-Gbps FC or as GigEthernet. The remaining four ports are Intelligent GigEthernet ports, which support optional extended distance iFCP connectivity when activated. Base functionality of the twelve user configurable ports provides SAN routing on up to two FC ports, FC fabric support, and iSCSI support on GigEthernet ports.

There are three optional firmware versions available to enhance the functionality of the SAN16M-R. Customers may purchase any one or all three versions of the optional SAN16M-R firmware; however, only one version of SAN16M-R firmware may be operational at a time. Configuration, application and management of SAN16M-R firmware is a customer responsibility.

- The iFCP Enterprise option (feature #2603), activates extended distance iFCP protocol support with fast write and compression onto the four intelligent GigEthernet ports. This functionality is enabled in addition to other functions included in the base configuration.
- The SAN Routing option (feature #2604), enables SAN routing (R_Port) functionality on all twelve of the user configurable ports. This functionality is enabled in addition to other functions included in the base configuration
- The Comprehensive option (feature #2606), enables full function on all twelve user configurable ports (SAN routing, Fibre Channel fabric, and iSCSI support), as well as enables iFCP protocol support with fast write and compression on the four intelligent GigEthernet ports.

Optionally available is the Enterprise SANvergence Management tool, which provides enhanced management of the SAN router. At this time, the SAN16M-R is qualified for use with FCP installations only; the SAN16M-R is not qualified for use with FICON installations.

Also new with this announcement is the introduction of the IBM TotalStorage SANC40M 40U Cabinet (2027-C40), which is designed to accept up to two SAN256M directors, up to three SAN16M-R routers, as well as other IBM TotalStorage m-type switch and director models. SAN256M directors may be installed in the SANC40M 40U Cabinet at the plant or in the field for an already installed SANC40M 40U Cabinet with available space.

SAN management highlight

Beginning with version 8.6, McDATA now supports Enterprise Fabric Connectivity Manager (EFCM) hosted on an appropriate customer provided network management server, which meets or exceeds minimum requirements specified in the following web site.

<http://www.ibm.com/totalstorage/san/m-type>

As a reference, customers may separately order and install McDATA EFCM V8.6 and later, on the IBM xSeries® X336 1U Network Management Server (MTM 8837-336). Additionally, McDATA supports EFCM v8.6 hosted on the existing McDATA 1U Server, which is feature number #3765 under existing McDATA models resold by IBM under the Machine Type 2031 and 2032. Note, versions of McDATA EFCM before Version 8.6 are only supported on the McDATA 1U Server.

Supported servers and storage systems

- Servers
 - IBM @server® zSeries® and selected S/390® servers
 - IBM @server® pSeries® and selected RS/6000® servers
 - IBM @server® iSeries™ and selected AS/400® servers
 - IBM @server® xSeries and selected Netfinity® servers

- Other Intel™-based servers running Linux™, Microsoft™ Windows™ 2000, or Windows 2003
- Selected Sun and HP servers
- Storage software
 - IBM TotalStorage SAN Volume Controller (SVC)
 - IBM TotalStorage SAN File System (SFS)
- Storage systems
 - IBM TotalStorage Enterprise Storage Server™
 - IBM TotalStorage FAST Family of Storage Servers
 - IBM TotalStorage Enterprise Tape System 3590 and 3592
 - IBM TotalStorage Enterprise Tape Library 3494
 - IBM TotalStorage Enterprise Virtual Tape Server 3494
 - IBM TotalStorage Enterprise Tape Controller 3592 Model J70
 - IBM TotalStorage Enterprise Tape Controller 3590 Model A60
 - IBM 3581, 3582, 3583, and 3584 Ultrium LTO Tape Libraries
 - IBM TotalStorage Enterprise Virtual Tape Server 3494
 - Other selected storage systems

Note: For attachment to tape devices using FC Arbitrated Loop (FC-AL), the SAN256M, SAN140M, and SAN32M-1 require the use of the SAN24M-1. For details of the SAN24M-1, refer to Hardware Announcement 104-370, dated October 5, 2004.

For specific configuration support dates and other details on availability, server models, operating system levels, and storage attachment capabilities, consult the following product Web site

<http://www.ibm.com/totalstorage/san/m-type>

Support for some configurations may not be available on the initial general availability date.

Accessibility by people with disabilities

The following features support use by people with disabilities:

- Tactile landmarks on home keys.
- Industry standard keyboard and keypad layout.
- Keys which are tactilely discernible without activating them.
- Key repeat delay is adjustable to at least two seconds.
- Industry standard ports for alternative input and output devices.
- Industry standard display connectors.
- Non-glare screen that allows displays to be repositioned.
- Color as an enhancement, not as the only way to distinguish keys, controls, or labels.
- Easily readable lettering and high contrast colors.
- Upon request, provide documentation in an accessible format.

Software interface

- Keyboard equivalents are provided for all actions.
- The product does not interfere with keyboard accessibility features built into the operating system.
- Labels are associated with controls, objects, icons, and images.
- Text is provided through standard system function calls or API.
- Color as an enhancement, not as the only way to convey information or indicate an action.
- System settings for font, size, and color for all user interface controls.
- Avoids the use of blinking text, objects or other elements.
- Documentation in an accessible format
- Documentation on all accessibility features including keyboard access

Section 508 of the U.S. Rehabilitation Act

The IBM TotalStorage SAN256M director, SAN16M-R router, and SANC40M cabinet are capable as of March 11, 2005, when used in accordance with IBM's associated documentation, of satisfying the applicable requirements of Section 508 of the Rehabilitation Act, provided that any assistive technology used with the product properly interoperates with it. A U.S. Section 508 Voluntary Product Accessibility Template (VPAT) can be requested via IBM's Web site at

http://www-3.ibm.com/able/product_accessibility/index.html

Business Partner information

If you are a Direct Reseller - System Reseller acquiring products from IBM, you may link directly to Business Partner information for this announcement. A PartnerWorld ID and password are required (use IBM ID).

BP Attachment for Announcement Letter 105-111

<https://www.ibm.com/partnerworld/mem/sla.jsp?num=105-111>

Trademarks

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Linux is a trademark of Linus Torvalds in the United States, other countries or both

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IBM US Announcement Supplemental Information

March 8, 2005

Publications

The following hardware manuals are shipped with the product on CD-ROM. Additional copies will be available at product general availability from

<http://www.elink.ibm.link.ibm.com/public/applications/publications/cgibin/pbi.cgi?CTY=US>

Title	Order number
Availability date: March 11, 2005	
IBM TotalStorage® SAN 256M Director Installation and Service Manual	GC26-7745
IBM TotalStorage SAN16M-R SAN Router Installation and Service Manual	GC26-7744
IBM TotalStorage SANC40M Cabinet Installation and Service Manual	GC26-7746
IBM TotalStorage Products in a SAN Environment Planning Manual	GC26-7675

The following manual will be available at announcement from

<http://www.elink.ibm.link.ibm.com/public/applications/publications/cgibin/pbi.cgi?CTY=US>.

The *IBM TotalStorage Products in a SAN Environment Planning Manual* (GC26-7675) is available.

The following software and firmware manuals are shipped with the product on CD-ROM.

- EFC Manager Software User Manual for IBM TotalStorage Products
- EFCM Software Quick Start Guide
- SANpilot User Manual for IBM TotalStorage Products
- SANvergence Manager User Manual
- EOS, CLI User Manual
- EOSn, CLI User Manual
- EOSi, CLI User Manual
- EOS, SNMP User Manual
- EOSi, SNP User Manual
- EOSn, SNP User Manual
- Event Manager User Manual
- Planning Feature User Manual

The following documents will ship with the product as hard copy.

- IBM TotalStorage SAN 256M Director Quick Setup Guide
- IBM TotalStorage SAN 256M Director Rack-mount Kit Installation Instructions
- IBM TotalStorage SAN 256M Director Safety Notices
- IBM TotalStorage SAN16M-R SAN Router Quick Setup Guide
- IBM TotalStorage SAN16M-R SAN Router Rack-mount Kit Installation Instructions

- IBM TotalStorage SAN16M-R SAN Router Safety Notices
- IBM TotalStorage SANC40M Cabinet Safety Notices

Services

Integrated Technology Services

IBM services include business consulting, outsourcing, hosting services, applications, and other technology management.

These services help you learn about, plan, install, manage, or optimize your IT infrastructure for e-business. They can help you integrate your high-speed networks, storage systems, application servers, wireless protocols, and an array of platforms, middleware, and communications software for IBM and many non-IBM offerings. IBM is your one-stop shop for IT support needs.

For details on available services, contact your IBM representative or visit

<http://www.ibm.com/services/>

For details on education offerings related to specific products, visit

<http://www.ibm.com/services/learning/index.html>

Select your country, and then select the product as the category.

Technical information

Physical specifications

- 2027 Model 256 (14 U)
 - Width: 44.3 cm (17.5 in)
 - Depth: 86.4 cm (34.0 in)
 - Height: 67.2 cm (24.5 in)
 - Weight: 152 kg (335 lb)
- 2027 Model R16 (1 U)
 - Width: 42.9 cm (16.9 in)
 - Depth: 64.6 cm (25.43 in)
 - Height: 4.2 cm (1.66 in)
 - Weight: 11.4 kg (25 lb)
- 2027 Model C40
 - Width: 66.0 cm (26 in)
 - Depth: 106.7 cm (42 in)
 - Height: 188.0 cm (74 in)
 - Weight: 153 kg (337 lb)

To assure installability and serviceability in non-IBM industry standard racks, review the installation planning information for any product specific installation requirements.

This announcement is provided for your information only. For additional information, contact your IBM representative, call 800-IBM-4YOU, or visit the IBM home page at: <http://www.ibm.com>.

Operating environment

- 2027-256
 - Temperature: 0° to 40°C (32° to 104°F)
 - Relative humidity: 8% to 80%
 - Wet bulb (caloric value): 8,192 BTU/hour
 - Electrical power: 200-240 V ac 50-60 Hz 11.4A
 - Noise level: 7.5 — 7.8 Bels
- 2027-R16
 - Temperature: 5° to 40°C (41° to 104°F)
 - Relative humidity: 20% to 85% non-condensing
 - Wet bulb (caloric value): 650 BTU/hour
 - Electrical power: 100-120 / 200-240 V ac 50-60 Hz 2.0A
 - Noise level: 7.3 — 7.5 Bels
- 2027-C40
 - Temperature: 10° to 38°C (40° to 104°F)
 - Relative humidity: 8% to 80%
 - Wet bulb (caloric value): None
 - Electrical power: 200-240 V ac 50-60 Hz 30A
 - Noise level: 5.5 — 6.8 Bels

EMC conformance

- ICES 003 Class A
- FCC Part 15 Class A
- VCCI Class A ITE
- EN55022 Class A
- EN55024
- AS NZS 3548 Class A
- CISPR22 Class A

Product safety/Country testing/Certification

- UL, cUL, UL-GS, UL-Ar
- CE
- Gost
- NOM

Hardware requirements

Rack requirements: The appropriate rail kit is included in the base configurations of the SAN256M and SAN16M-R.

SAN256M director: The SAN256M director is only supported in the 2027-C40 cabinet. You must select either the plant or field cabinet integration code (#9251 or #9252) in your initial order. To ensure you receive your choice of power cords on the SAN256M, you must specify either International (#1060) or Domestic (#1062) plug in your initial order.

Note: Customers are responsible for integration and management of their installed fiber optic cable plant to the SAN256M director.

SAN16M-R router: The SAN16M-R is supported in the 2027-C40 (plant and field), 2032-C40 (plant and field) cabinet, or for desktop installation. For cabinet integration of the SAN16M-R router you will need to specify either the plant or field cabinet integration code (#9249 or #9250 for 2027-C40, or #9238 or #9239 for 2032-C40).

The SAN16M-R is equipped with one 110v U.S. power cord, and one rack PDU jumper in the base configuration. In the U.S., all other U.S. power cord selections are completely optional. For non-U.S. installations, appropriate power cord selection is required and you must specify a country-specific power cord (#1012-#1030) in your initial order.

SAN40M cabinet requirements: The 2027-C40 is designed to support the TotalStorage SAN m-type family of SAN director and switch products. Each 2027-C40 Cabinet requires at least one IBM TotalStorage SAN256M director (2027-256), SAN16M-R router 2027-R16, SAN140M director (2027-140), SAN32M-1 switch (2027-232), or SAN24M-1 switch (2026-224) to be ordered with your initial order of the 2027-C40 cabinet.

Software requirements: Specific details on supported operating system releases are available on the Web at

<http://www.ibm.com/totalstorage/SAN/m-type>

Compatibility: Specific details on supported operating systems, servers, and devices, storage products attachability, SAN connectivity products, and configuration options are available on the Web at

<http://www.ibm.com/totalstorage/SAN/m-type>

Limitations: Operation of the SAN256M enterprise director requires use of the McDATA Enterprise Fabric Connectivity Manager (EFCM) software version 8.6 or later. Customers with McDATA EFCM software under current McDATA support may obtain an upgrade to EFCM v8.6 at no additional charge, using the existing terms of their McDATA software license. Customers who need to order EFCM v8.6 may do so using the appropriate feature code under existing McDATA models resold by IBM under the machine type 2031 and 2032. Customers ordering IBM TotalStorage SAN m-type directors (IBM 2027) without installed IBM 2031 or 2032 switches may do so with special provisions described separately in an IBM sales announcement summary.

Planning information

Cable orders

Fiber optic cable: A fiber optic cable is required for attaching 2027 machines to the host system adapters, or other storage area FC components. The cable can be customer supplied, or ordered with the 2027 machine in the lengths available. The attaching fiber cable must be 50.0/125 micrometers for distances up to 300 meters at 2 Gb/sec speed, or 62.5/125 micrometers for distances up to 175 meters at 2 Gb/sec speed. The connection is a LC connector type.

When installing the SAN256M director, customers are responsible for planning, management, labeling, and implementation of their existing fiber optic cable plant.

Description	Feature number
Cable Coupler 50u SC/SC	1800
Cable Coupler 9u SC/SC	1801
Fiber Cable 9u 3m LC/SC	1805
Fiber Cable 50u 10m LC/SC	1810
Fiber Cable 50u 10m LC/LC	1811

In many situations, the required lengths and installation of fiber optic cables will be unique to each customer's configuration and facility specifications. Product support services, offered by IBM Global Services' Site and Connectivity Solutions, can provide assistance for these unique cabling and installation requirements.

Security, auditability, and control

This product uses the security and auditability features of host hardware, host software, and/or application software to which it is attached.

The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communications facilities.

Terms and conditions

Volume orders: Contact your IBM representative.

IBM Global Financing: Yes

Warranty period: One year

Warranty service: If required, IBM provides repair or exchange service depending on the type of warranty service specified for your machine. An IBM technician will attempt to resolve your problem over the telephone. You must follow IBM's problem determination and resolution procedures. Scheduling of service will depend upon the time of your call and is subject to parts availability. Service levels are response time objectives and are not guaranteed. The specified level of warranty service may not be available in all worldwide locations. Additional charges may apply outside IBM's normal service area. Contact your local IBM representative or your reseller for country- and location-specific information.

On-site service — IBM On-site Repair (IOR), 24 hours per day, 7 days a week, same-day response. IBM will repair the failing machine at your location and verify its operation. You must provide a suitable working area to allow disassembly and reassembly of the IBM machine. The area must be clean, well-lit, and suitable for the purpose.

ServiceSuite™ and ServiceElect (formerly ESA) maintenance

Maintenance services (ESA): For ServiceElect (Z125-5510) and ServiceSuite (Z125-5745) Statements of Work

If required, IBM provides repair or exchange service upgrades depending on the type of service specified for your machine. An IBM technician will attempt to resolve your problem over the telephone. You must follow IBM's problem determination and resolution procedures. Scheduling of service will depend upon the time of your call and is subject to parts availability. Service levels are response time objectives and are not guaranteed. The specified level of service may not be available in all worldwide locations. Additional charges may apply outside IBM's normal service area. Contact your local IBM representative or your reseller for country- and location-specific information.

Standard service level

- On-site service — IOR, 24 hours per day, 7 days a week, same-day response

Alternative service levels

- On-site service — IOR, 9 hours per day, 5 days a week, next-business-day response

- On-site service — IOR, 9 hours per day, 5 days a week, same-day response
- On-site service — IOR, 24 hours per day, 7 days a week, 2-hour response

IBM will repair the failing machine at your location and verify its operation. You must provide a suitable working area to allow disassembly and reassembly of the IBM machine. The area must be clean, well-lit, and suitable for the purpose.

Maintenance service: The preferred go-to-market offerings are ServiceElect and ServiceSuite. However, ICA legacy contracts will still be available for current customers until they are withdrawn.

If required, IBM provides repair or exchange service upgrades depending on the type of service specified for your machine. An IBM technician will attempt to resolve your problem over the telephone. You must follow IBM's problem determination and resolution procedures. Scheduling of service will depend upon the time of your call and is subject to parts availability. Service levels are response time objectives and are not guaranteed. The specified level of service may not be available in all worldwide locations. Additional charges may apply outside IBM's normal service area. Contact your local IBM representative or your reseller for country- and location-specific information.

On-site service — IOR, 24 hours per day, 7 days a week, same-day response. IBM will repair the failing machine at your location and verify its operation. You must provide a suitable working area to allow disassembly and reassembly of the IBM machine. The area must be clean, well-lit, and suitable for the purpose.

Usage plan machine: No

IBM hourly service rate classification: Two

When a type of service involves the exchange of a machine part, the replacement may not be new, but will be in good working order.

Field-installable features: Yes

Model conversions: No

Machine installation: Installation is performed by IBM. IBM will install the machine in accordance with the IBM installation procedures for the machine. In the United States, contact IBM at 800-IBM-SERV (426-7378). In other countries, contact the local IBM office.

Graduated program license charges apply: No

Educational allowance: A reduced charge is available to qualified education customers. The educational allowance may not be added to any other discount or allowance.

Prices

Description	Machine type/ model	Feature number	Purchase price ¹	Plant/ Field install
IBM TotalStorage SAN256M director	2027-256		\$228,600	
International Cable Mount Plug, Installed		1060	0	Both
Domestic Cable Mount Plug, Installed		1062	0	Both
FICON™ Management Server		1511	34,600	Both
Line Module 32x2Gb/s ports — SW		1530	51,300	Both
Line Module 4x10Gb/s ports, 16x2Gb/s ports — SW		1531	78,140	Both
Line Module 2x10Gb/s ports, 24x2Gb/s ports — SW		1532	65,990	Both
Line Module 32x2Gb/s ports — LW		1533	67,600	Both
Line Module 4x10Gb/s ports, 16x2Gb/s ports		1534	95,610	Both
Line Module 2x10Gb/s ports, 24x2Gb/s ports		1535	81,610	Both
Line Module Filler Panel		1536	546	Both
Switching Module		1540	34,130	Both
SWM Filler Panel		1541	237	Both
SFP Long Wave® (LW) (2 Gb/s) 35km		3235	3,500	Both
SFP Long Wave (LW) (2 Gb/s) 10km		4630	1,978	Both
Cable Coupler, 50U, SC/SC		1800	42	Both
Cable Coupler, 9U, SC/SC		1801	63	Both
Fiber Cable, 9u, 3M, LC/SC		1805	313	Both
Fiber Cable, 50u, 10M, LC/SC		1810	292	Both
Fiber Cable, 50u, 10M, LC/LC		1811	333	Both
Plant Install 2027-256 in 2027-C40		9251	N/C	Plant
Field Install 2027-256 in 2027-C40		9252	0	Field
IBM TotalStorage SAN16M-R router	2027-R16		93,356	
Power cords:				
U.K., 2.5m, 220v/10a		1012	N/C	Plant
European, 2.5m, 220v/10a		1013	N/C	Plant
Australian, 2.5m, 220v/10a		1014	N/C	Plant
U.S., 9 ft 10 in, 208-240v		1016	N/C	Plant
Italy/Chile/Libya, 220v/10a		1021	N/C	Plant
Israel, 2.5m, 250v/10a		1022	N/C	Plant
Thailand/Bolivia/Peru, NEMA 6-15P, 250v/10a		1023	N/C	Plant
Denmark, 250v/10a		1024	N/C	Plant
Africa/Burma/Bangladesh, 250v/10a		1025	N/C	Plant
Switzerland/Liechtenstein, 250v/10a		1026	N/C	Plant

Description	Machine type/ model	Feature number	Purchase price ¹	Plant/ Field install
U.S., 1.8m 240v/15a, Non-locking NEMA L6-15P		1027	N/C	Plant
U.S., 1.8m 240v/6a, Twist-lock NEMA L6-15P		1028	N/C	Plant
U.S., 2.8m 240v/6a, Twist-lock NEMA L6-15P		1029	N/C	Plant
Japan, 2.8m, NEMA 6-15P 240v/6a		1030	N/C	Plant
Copper Transceiver — SFP — RJ45		1607	\$ 853	Both
Cable Coupler, 50U, SC/SC		1800	42	Both
Cable Coupler, 9U, SC/SC		1801	63	Both
Fiber Cable, 9u, 3M, LC/SC		1805	313	Both
Fiber Cable, 50u, 10M, LC/SC		1810	292	Both
Fiber Cable, 50u, 10M, LC/LC		1811	333	Both
SFP Long Wave (LW) (2 Gb/s) 35km		3235	3,500	Both
SFP Long Wave (LW) (2 Gb/s) 10km		4630	1,978	Both
iFCP Enterprise = Base w/2 R_Ports enabled + iFCP with Fast Write		2603	68,197	Both
SAN Routing = Base w/12 R_Ports enabled		2604	68,197	Both
Comprehensive = Base w/12 R_Ports enabled + iFCP with Fast Write		2606	109,681	Both
Enterprise SANvergence SW		8052	10,316	Both
Plant Install 2027-R16 in 2032-C40		9238	N/C	Plant
Field Install 2027-R16 in 2032-C40		9239	0	Field
Plant Install 2027-R16 in 2027-C40		9249	N/C	Plant
Field Install 2027-R16 in 2027-C40		9250	0	Field
IBM TotalStorage SANC40M 40U Cabinet	2027-C40		14,000	
Ethernet Hub		5030	833	Both
International Power Cords (IEC 60309)		9210	N/C	Plant
North America Power Cords (NEMA L6-30P)		9211	N/C	Plant
Plant install 2027-140 in 2027-C40		9225	N/C	Plant

Description	Feature number	Purchase price ¹	Plant/Field install
Plant install 2027-232 in 2027-C40	9226	N/C	Plant
Plant install 2026-224 in 2027-C40	9227	N/C	Plant
Plant install 2027-R16 in 2027-C40	9228	N/C	Plant
Plant install 2027-256 in 2027-C40	9229	N/C	Plant

¹ Purchase price reflects the purchase price for a single unit acquired from IBM and is subject to change without notice. This price shall not limit, in any way, IBM resellers' ability to set their own price.

Alternative and maintenance service

Alternative service charges: None

Annual minimum maintenance charges

Machine type/model	Feature number	IOR 24 x 7
2027-256		\$ 750
	1530	179
	1531	185
	1532	179
	1533	191
	1534	197
	1535	197
	1540	99
2027-R16		1,154
2027-C40		37

For ServiceElet (ESA) Maintenance Service Charges, contact IBM Global Services at 888-IBM-4343 (426-4343).

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